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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,352	02/22/2002	Charles Calvin Byers	49	9766

7590 03/21/2005

Docket Administrator (Room 3J-219)  
Lucent Technologies Inc.  
101 Crawfords Corner Road  
Holmdel, NJ 07733-3030

EXAMINER

PENDLETON, BRIAN T

ART UNIT PAPER NUMBER

2644

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/081,352	BYERS, CHARLES CALVIN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Brian T. Pendleton	2644	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-15 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5, 9, 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson et al, US Patent 6,457,682. Anderson discloses a railroad crossing warning system comprising a plurality of control units 30 having horns 56. Inherently the horns (loudspeakers) 56 are coupled to high power amplifiers shown in figure 10. The control units 30 have a control box 58 which is a digital signal processor (see column 6 lines 24-36). As discussed in column 2 lines 43-60, the controller controls the amplitude of the audible horns. The horns generate a directional signal which has a pattern as illustrated in figure 1. Claims 1 and 15 are met. As to claim 5, there is disclosed a sound generator in figure 8 which stores a plurality of signals. Regarding claim 9, there is disclosed XR and IR, which represent crossing relay and island relay signals that determine the position of the train 20 and are used by the controller to select an audible signal. As to claim 14, the amplitude of the horn is adjusted, thereby providing a sweep in a region of high amplitude.

Claims 1 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Milsap, US Patent Application Publication 2003/0185404. In figure 2, Milsap discloses a phased array

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sound system comprising a plurality of high power amplifiers (Class D, per claim 12), a plurality of loudspeakers 50, 54, 56, 58 and a digital signal processor 80 which is used to control the phases of the signals through memory stack 74. Claims 1 and 12 are met.

Claims 1 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yanagawa et al, US Patent 5,233,664. Yanagawa discloses a loudspeaker array comprising a plurality of amplifiers A1-Am, a plurality of loudspeakers SP1-SPm, and a digital signal processor (controller 1) configured to control the frequency and amplitude of the signals. Per claim 13, there is disclosed a keyboard 3.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4, 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Welk, US Patent 5,890,682. Anderson does not disclose that the audible signal generator in the control boxes 30 includes a location determination device connected to the digital signal processor and configured to calculate a determined pattern. Welk discloses a rail way crossing collision avoidance system comprising GPS 12 and transmitter 14 located on a train 10, railroad crossing monitor 13 having a receiver, processor and transmitter for transmitting audible alarm signals to a vehicle 11 via receiver 15. As disclosed in the abstract and column 4 lines 10-40, the location of the train determines the level of the alarm signal transmitted by the crossing monitor 13. The advantage of this feature was to indicate how close

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a train is to a crossing with specific accuracy through different audible cues. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the GPS location feature with different levels of alarm signals, as taught by Welk, in the control boxes 30 of Anderson for the purpose of imparting more pertinent oncoming train information to a driver at a crossing. Claims 2-4 are met. Per claim 8, Welk also discloses determining the level of alarm signals according to the train's velocity using element 24 which is a motion detector. As to claim 11, sensor 34 is used to modify the alarm level according to the weather condition, which is based on temperature.

Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson. Anderson does not disclose that the plurality of signals stored as PCM data. However, it was well known to store waveforms as PCM data at the time of invention with the benefit of high capacity storage of waveforms in small memory. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use PCM data for the horn sounds in the invention of Anderson for the purpose of saving memory space. As to claim 10, one of ordinary skill in the art would have known that trains adhere to schedules. A commuter train will follow a strict schedule, departing and arriving at set times of the day. As a result, railroad grade crossings are passed at set times of the day. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the amplitude of the horn of Anderson based on the time of day since that parameter correlated with railroad crossings.

*Allowable Subject Matter*

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Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (703) 305-9509. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian T. Pendleton  
Examiner  
Art Unit 2644

btp

